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10/729,765	12/08/2003	Robert N. Petersen		6255

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EXAMINER	
DRODGE, JOSEPH W	

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1723	

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Please find below and/or attached an Office communication concerning this application or proceeding.

C

Supplemental Notice of Allowability	Application No. 10/729,765	Applicant(s) PETERSEN, ROBERT N.	
	Examiner Joseph W. Drodge	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the telephonic Interview of 7-27-2006*.

2. ☒ The allowed claim(s) is/are *20-38, now renumbered claims 1-19*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *11/16/2006* .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Cancel Claims 20-38 and substitute new Claims 39 - 57 as follows: --

39. (New) A system to vacuum collect and vacuum convey mixed immiscible liquids from the source of, or the sources of, said mixed immiscible liquids into a separation facility, said mixed immiscible liquids being composed of a heavy phase and a light phase, the specific gravity of said heavy phase being greater than the specific gravity of said light phase, said separation facility being under continuous vacuum, to separate said mixed immiscible liquids into said heavy phase and said light phase in said separation facility, and once said heavy phase is separated from said light phase in said separation facility, to ultimately discharge said heavy phase to a heavy phase terminal facility, and to ultimately discharge said light phase to a light phase terminal facility, respectively, said heavy phase terminal facility and said light phase terminal facility both being under atmospheric pressure, comprising

(a) a mixed immiscible liquids influent stream, said mixed immiscible liquids influent stream being said mixed immiscible liquids that flow into said separation facility, and

(b) a vacuum tank, said vacuum tank having a predetermined volumetric holding capacity and a predetermined shape, and having a top and a bottom, said top of said vacuum tank being above said bottom of said vacuum tank,

(c) said vacuum tank containing inside a main gross phase separation chamber, a light phase sump, a heavy phase equalization chamber, and a heavy phase sump, said main gross phase separation chamber and said light phase sump and said heavy phase equalization chamber and said heavy phase sump each delimiting a respective space inside said vacuum tank, each said respective space having a top and a bottom and sides, each said respective top of each said respective space being above each said respective bottom of each said respective space, and each said respective top of each said respective space being open and uncovered,

(d) said vacuum tank also containing inside an air gap, said air gap being all space inside said vacuum tank below said top of said vacuum tank and above said top of said space of said main gross phase separation chamber and above said top of said space of said light phase sump and above said top of said space of said heavy phase equalization chamber and above said top of said space of said heavy phase sump,

(e) said space of said light phase sump being isolated from said space of said main gross phase separation chamber and from said space of said heavy phase sump and from said space of said heavy phase equalization chamber,

(f) said space of said heavy phase sump being isolated from said space of said main gross phase separation chamber and from said space of said light phase sump and from said space of said heavy phase equalization chamber,

(g) said heavy phase equalization chamber being coupled to said bottom of said main gross phase separation chamber,

(h) one or more of said sides, or a portion of said sides, of said light phase sump abutting said space of said main gross phase separation chamber,

(i) one or more of said sides, or a portion of said sides, of said heavy phase sump abutting said space of said heavy phase equalization chamber, and

(j) a vacuum tank air evacuation outlet, said vacuum tank air evacuation outlet penetrating into said top of said vacuum tank, and

(k) a vacuum generating means, said vacuum generating means being coupled to said vacuum tank air evacuation outlet and causing and maintaining a continuous vacuum intensity in said vacuum tank, and

(l) a vacuum tank mixed immiscible liquids inlet, said vacuum tank mixed immiscible liquids inlet penetrating into said top of said vacuum tank, and

(m) a mixed immiscible liquids collection conduit, or a mixed immiscible liquids collection conduit network, said mixed immiscible liquids collection conduit or mixed immiscible liquids collection conduit network being coupled to said vacuum tank at said vacuum tank mixed immiscible liquids inlet and extending to said source, or said sources, of mixed immiscible liquids,

(n) said mixed immiscible liquids influent stream discharging into said main gross phase separation chamber for simultaneous quiescent differential specific gravity separation process and vacuum induced dissolved air flotation process, said mixed immiscible liquids influent stream dissociating into a separated light phase and a separated heavy phase in said main gross phase separation chamber, said separated light phase floating above said separated heavy phase,

(o) said light phase sump having a horizontal top edge weir along said top of said sides of said light phase sump along all said sides of said light phase sump that abut said space of said main gross phase separation chamber, said horizontal top edge weir of said light phase sump being below said top of said vacuum tank, and establishing said top of said space of said main gross phase separation chamber and said top of said space of said light phase sump,

(p) said heavy phase sump having a horizontal top edge weir along said top of said sides of said heavy phase sump along all said sides of said heavy phase sump that abut said space of said heavy phase equalization chamber, said horizontal top edge weir of said heavy phase sump being slightly below said horizontal top edge weir of said light phase sump, and establishing said top of said space of said heavy phase equalization chamber and said top of said space of said heavy phase sump,

(q) said sides of said heavy phase equalization chamber and said sides of said heavy phase sump that abut said main gross phase separation chamber and/or said light phase sump having a respective top edge, said respective top edge of said sides of said heavy phase equalization chamber and/or said heavy phase sump being slightly above said top of said space of said main gross phase separation chamber and said top of said space of said light phase sump, and

(r) a light phase sump liquid surface level is a horizontal plane and is existing inside said light phase sump if the liquid surface level of said separated light phase in said main gross phase separation chamber is, or has been, above said top of said space of said main gross phase separation chamber, and

(s) a heavy phase sump liquid surface level is a horizontal plane and is existing inside said heavy phase sump if the liquid surface level of said separated heavy phase in said heavy phase equalization chamber is, or has been, above said top of said space of said heavy phase equalization chamber, and

(t) a light phase sump upper liquid surface level sensing means, said light phase sump upper liquid surface level sensing means being located inside said light phase sump below said top of said space of said light phase sump, and

(u) a light phase sump lower liquid surface level sensing means, said light phase sump lower liquid surface level sensing means being located inside said light phase sump below said light phase sump upper liquid surface level sensing means, and

(v) a heavy phase sump upper liquid surface level sensing means, said heavy phase sump upper liquid surface level sensing means being located inside said heavy phase sump below said top of said space of said heavy phase sump, and

(w) a heavy phase sump lower liquid surface level sensing means, said heavy phase sump lower liquid surface level sensing means being located inside said heavy phase sump below said heavy phase sump upper liquid surface level sensing means, and

(x) a light phase sump outlet, said light phase sump outlet being located below said light phase sump lower liquid surface level sensing means, and

(y) a heavy phase sump outlet, said heavy phase sump outlet being located below said heavy phase sump lower liquid surface level sensing means, and

(z) a light phase flow control means, said light phase flow control means being coupled to said light phase sump outlet and extracting said separated light phase from said light phase sump and delivering said light phase to said light phase terminal facility, and

(aa) a heavy phase flow control means, said heavy phase flow control means being coupled to said heavy phase sump outlet and extracting said separated heavy phase from said heavy phase sump and delivering said heavy phase to'said heavy phase terminal facility,

(bb) said light phase sump upper liquid surface level sensing means initiating the operation. of said light phase flow control means at any time said light phase sump liquid surface level is at, or above, the elevation of said light phase sump upper liquid surface level sensing means,

(cc) said light phase sump lower liquid surface level sensing means preventing the operation of said light phase flow control means at any time said light phase sump liquid surface level is at, or below, the elevation of said light phase sump lower liquid surface level sensing means,

(dd) said heavy phase sump upper liquid surface level sensing means initiating the operation of said heavy phase flow control means if said heavy phase sump liquid surface level is at, or above, the elevation of said heavy phase sump upper liquid surface level sensing means,

(ee) said heavy phase sump lower liquid surface level sensing means preventing the operation of said heavy phase flow control means if said heavy phase

sump liquid surface level is at, or below, the elevation of said heavy phase sump lower liquid surface level sensing means, and

(ff) a vacuum generating means/vacuum tank coupling conduit, said vacuum generating means/vacuum tank coupling conduit coupling said vacuum generating means to said vacuum tank at said vacuum tank air evacuation outlet, and

(gg) a light phase flow control means/light phase sump coupling conduit, said light phase flow control means/light phase sump coupling conduit coupling said light phase flow control means to said light phase sump outlet, and

(hh) a heavy phase flow control means/heavy phase sump coupling conduit, said heavy phase flow control means/heavy phase sump coupling conduit coupling said heavy phase flow control means to said heavy phase sump outlet.

40. (New) The system of claim 39, further including a grit, sediment, particulate, and floating debris removal means, said grit, sediment, particulate and floating debris removal means being selected from the group consisting of filters, strainers, screens, and settling chambers, said grit, sediment, particulate and floating debris removal means being established in said mixed immiscible liquids influent stream prior to said vacuum tank mixed immiscible liquids inlet.

41. (New) The system of claim 39, further including a mixed immiscible liquids influent stream energy dissipation and flow distribution chamber, said mixed immiscible liquids influent stream energy dissipation and flow distribution chamber having a predetermined volume and a predetermined shape, and being coupled to said vacuum tank mixed immiscible liquids inlet, and having a top and a bottom plate, said bottom

plate of said mixed immiscible liquids influent stream energy dissipation and flow distribution chamber being below said top of said mixed immiscible liquids influent stream energy dissipation and flow distribution chamber and being above said top of said space of said main gross phase separation chamber, and being comprised of an opening, or openings, of predetermined size or sizes, shape or shapes, and configuration or configurations.

42. (New) The system of claim 39, further including a combined entrained air purging and back siphonage prevention means, said combined entrained air purging and back siphonage prevention means being said air gap inside said vacuum tank.

43. (New) The system of claim 39, further including a separated light phase protection roof, said separated light phase protection roof comprising:

(a) a roof panel, said roof panel being horizontal, and having sides, and having a near end edge, and having a distant end edge, and being above said top of said space of said main gross phase separation chamber, and being below said top of said vacuum tank,

(b) said roof panel being connected to said vacuum tank along said sides of said roof panel, said sides of said roof panel further being sealed continuously to said vacuum tank to be liquid tight,

(c) said near end edge of said roof panel being closer to said light phase sump than said distant end edge of said roof panel, and

(d) a roof panel near end edge elevated flow barrier wall, said roof panel near end edge elevated flow barrier wall being more or less vertical, and having sides, and having a top edge and a bottom edge,

(e) said bottom edge of said roof panel near end edge elevated flow barrier wall being below said top edge of said roof panel near end edge elevated flow barrier wall, and being connected to said near end edge of said roof panel along said bottom edge of said roof panel near end edge elevated flow barrier wall, and further being sealed continuously to said near end edge of said roof panel along said bottom edge of said roof panel near end edge elevated flow barrier wall to be liquid tight,

(f) said top edge of said roof panel near end edge elevated flow barrier wall being below said top of said vacuum tank,

(g) said sides of said roof panel near end edge elevated flow barrier wall being connected to said vacuum tank, and further being sealed continuously to said vacuum tank along said sides of said roof panel near end edge elevated flow barder wall to be liquid tight.

44. (New) The system of claim 43, further including a separated light phase anti-disturbance partition wall, said separated light phase anti-disturbance partition wall being oriented upright, and having sides, and having a top edge and a bottom edge,

(a) said top edge of said separated light phase anti-disturbance partition wall being above said bottom edge of said separated light phase anti-disturbance partition wall, and being connected to said distant end edge of said roof panel along said top edge of said separated light phase anti-disturbance partition wall, and further being

sealed continuously to said distant end edge of said roof panel along said top edge of said separated light phase anti-disturbance partition wall to be liquid tight,

(b) said bottom edge of said separated light phase anti-disturbance partition wall being below the interface of said separated light phase and said separated heavy phase in said main gross phase separation chamber,

(c) said sides of said separated light phase anti-disturbance partition wall being connected to said vacuum tank, and further being sealed continuously to said vacuum tank along said sides of said separated light phase anti-disturbance partition wall to be liquid tight.

45. (New) The system of claim 39, wherein said light phase sump upper liquid surface level sensing means and/or said heavy phase sump upper liquid surface level sensing means also prevents the operation of said vacuum generating means if

(a) said light phase sump liquid surface level is at, or above, said light phase sump upper liquid surface level sensing means, or

(b) said heavy phase sump liquid surface level is at, or above, said heavy phase sump upper liquid surface level sensing means.

46. (New) The system of claim 39, further including a quantity of high void space light phase separation enhancement media means, said quantity of high void space light phase separation enhancement media means being fixed inside said vacuum tank in said main gross phase separation chamber and being below the interface between said separated light phase and said separated heavy phase, said quantity of high void space light phase separation enhancement media means having

void space and structure to permit laminar multi-directional flow of said mixed immiscible liquids through said quantity of high void space light phase separation enhancement media means at any time that said mixed immiscible liquids flow into said main gross phase separation chamber, and having surface and presenting more than 40 square feet of the area of said surface of said quantity of high void space light phase separation enhancement media means per in-situ cubic foot of said quantity of high void space light phase separation enhancement media means, and being of a material that preferentially attracts said light phase to said quantity of high void space light phase separation enhancement media means, said quantity of high void space light phase separation enhancement media means attracting and temporarily holding said light phase at said surface of said quantity of high void space light phase separation enhancement media means until said light phase that attaches to said surface of said quantity of high void space light phase separation enhancement media means accumulates and grows to a size that said light phase detaches from said surface of said quantity of high void space light phase separation enhancement media means and ascends through said heavy phase by virtue of differences in specific gravity between said light phase and said heavy phase.

47. (New) The system of claim 39, further including a full light phase terminal facility triggered system operation interrupt and alarm means, said full light phase terminal facility triggered system operation interrupt and alarm means comprising a light phase terminal facility high free surface liquid level sensing means, said light phase terminal facility high free surface liquid level sensing means being installed inside said

light phase terminal facility if said light phase terminal facility is a light phase storage container means, said light phase storage container means being selected from the group consisting of tanks, drums, barrels, vaults, containers, and combinations thereof, and having a light phase storage container means liquid level if said light phase storage container means contains said light phase, said light phase terminal facility high free surface liquid level sensing means simultaneously preventing the operation of said light phase flow control means if said light phase storage container means liquid level is at, or above, said light phase terminal facility high free surface liquid level sensing means, and energizing an alarm system means, said alarm system means being selected from the group consisting of local visual alarms, local audible alarms, combination local and visual and audible alarms, remote visual alarms, remote audible alarms, combination remote visual and audible alarms, and combinations thereof.

48. (New) The system of claim 39, further including a full heavy phase terminal facility triggered system operation interrupt and alarm means, said full heavy phase terminal facility triggered system operation interrupt and alarm means comprising a heavy phase terminal facility high free surface liquid level sensing means, said heavy phase terminal facility high free surface liquid level sensing means being installed inside said heavy phase terminal facility at any time said heavy phase terminal facility is a heavy phase storage container means, said heavy phase storage container means being selected from the group consisting of tanks, drums, barrels, vaults, containers, and combinations thereof, and having a heavy phase storage container means liquid level at any time that said heavy phase storage container means contains said heavy

phase, said heavy phase terminal facility high free surface liquid level sensing means simultaneously preventing the operation of said heavy phase flow control means at any time that said heavy phase storage container means liquid level is at, or above, said heavy phase terminal facility high free surface liquid level sensing means, and energizing an alarm system means, said alarm system means being selected from the group consisting of local visual alarms, local audible alarms, combination local and visual and audible alarms, remote visual alarms, remote audible alarms, combination remote visual and audible alarms, and combinations thereof.

49. (New) The system of claim 39, further including flow reversal prevention means, said flow reversal prevention means being selected from the group consisting of check valves, solenoid valves, and pneumatically operated shut-off valves, and combinations thereof, said flow reversal prevention means being installed in said vacuum generating means/vacuum tank coupling conduit, in said light phase flow control means/light phase sump coupling conduit, and in said heavy phase flow control means/heavy phase sump coupling conduit.

50. (New) The system of claim 39, further including an heavy phase supplemental separation means, said heavy phase supplemental separation means selected from the group consisting of coalescing filter separation means, ultrafiltration separation means, reverse osmosis separation means, centrifuge separation means, distillation separation means, microfiltration entrapment means, selective phase absorption means, selective phase adsorption means, and combinations thereof, said heavy phase supplemental separation means being established between said heavy

phase flow control means and said heavy phase terminal facility, whereby said heavy phase supplemental separation means increases the degree of separation of said light phase from said heavy phase after said heavy phase exits said vacuum tank, said heavy phase supplemental separation means comprising:

(a) a heavy phase supplemental separation means pretreated heavy phase inlet, said heavy phase supplemental separation means pretreated heavy phase inlet penetrating said heavy phase supplemental separation means, and

(b) a heavy phase supplemental separation means separated heavy phase outlet, said heavy phase supplemental separation means separated heavy phase outlet penetrating said heavy phase supplemental separation means, and

(c) provided that said heavy phase supplemental separation means is not said microfiltration entrapment means, or said selective phase absorption means, or said selective phase adsorption means, a heavy phase supplemental separation means separated light phase outlet, said heavy phase supplemental separation means separated light phase outlet penetrating said heavy phase supplemental separation means, and

(d) a heavy phase supplemental separation means pretreated heavy phase inlet coupling conduit, said heavy phase supplemental separation means pretreated heavy phase inlet coupling conduit coupling said heavy phase supplemental separation means to said heavy phase flow control means, and

(e) a heavy phase supplemental separation means separated heavy phase outlet coupling conduit, said heavy phase supplemental separation means separated

heavy phase outlet coupling conduit coupling said heavy phase supplemental separation means to said heavy phase terminal facility, and

(f) provided that said heavy phase supplemental separation means is not said microfiltration entrapment means, or said selective phase absorption means, or said selective phase adsorption means, a heavy phase supplemental separation means separated light phase outlet coupling conduit, said heavy phase supplemental separation means separated light phase outlet coupling conduit coupling said heavy phase supplemental separation means to said vacuum tank, and

(g) provided that said heavy phase supplemental separation means separated light phase outlet coupling conduit coupling exists, a heavy phase supplemental separation means separated heavy phase outlet coupling conduit flow reversal prevention means, said heavy phase supplemental separation means separated heavy phase outlet coupling conduit flow reversal prevention means being selected from the group consisting of check valves, solenoid valves, pneumatically operated shut-off valves, and combinations thereof, and being established in said heavy phase supplemental separation means separated heavy phase outlet coupling conduit.

51. (New) The system of claim 39, further including an light phase supplemental separation means, said light phase supplemental separation means selected from the group consisting of coalescing filter separation means, ultrafiltration separation means, reverse osmosis separation means, centrifuge separation means, distillation separation means, microfiltration entrapment means, selective phase absorption means, selective phase adsorption means, and combinations thereof, said

light phase supplemental separation means being established between said light phase flow control means and said light phase terminal facility, whereby said light phase supplemental separation means increases the degree of separation of said heavy phase from said light phase after said light phase exits said vacuum tank, said light phase supplemental separation means comprising:

(a) a light phase supplemental separation means pretreated light phase inlet, said light Phase supplemental separation means pretreated light phase inlet penetrating said light phase supplemental separation means, and

(b) a light phase supplemental separation means separated light phase outlet, said light phase supplemental separation means separated light phase outlet penetrating said light phase supplemental separation means, and

(c) provided that said light phase supplemental separation means is not said microfiltration entrapment means, or said selective phase absorption means, or said selective phase adsorption means, a light phase supplemental separation means separated heavy phase outlet, said light phase supplemental separation means separated heavy phase outlet penetrating said light phase supplemental separation means, and

(d) a light phase supplemental separation means pretreated light phase inlet coupling conduit, said light phase supplemental separation means pretreated light phase inlet coupling conduit coupling said light phase supplemental sepa'ration means to said light phase flow control means, and

(e) a light phase supplemental separation means separated light phase outlet coupling conduit, said light phase supplemental separation means separated light phase outlet coupling conduit coupling said light phase supplemental separation means to said light phase terminal facility, and

(f) provided that said light phase supplemental separation means is not said microfiltration entrapment means, or said selective phase absorption means, or said selective phase adsorption means, a light phase supplemental separation means separated heavy phase outlet coupling conduit, said light phase supplemental separation means separated heavy phase outlet coupling conduit coupling said light phase supplemental separation means to said vacuum tank, and

(g) provided that said light phase supplemental separation means separated heavy phase outlet coupling conduit coupling exists, a light phase supplemental separation means separated light phase outlet coupling conduit flow reversal prevention means, said light phase supplemental separation means separated light phase outlet coupling conduit flow reversal prevention means being selected from the group consisting of check valves, solenoid valves, pneumatically operated shut-off valves, and combinations thereof, and being established in said light phase supplemental separation means separated light phase outlet coupling conduit.

52. (New) The system of claim 39, further including a mixed immiscible liquids collection conduit flow control valve means, said mixed immiscible liquids collection conduit flow control valve means being selected from the group consisting of manually operated valves, mechanically operated valves, electro-mechanically operated valves,

and pneumatically operated valves, and combination thereof, said mixed immiscible liquids collection conduit flow control valve means being installed in said mixed immiscible liquids collection conduit, or, if said mixed immiscible liquids collection conduit network exists, in each branch conduit of said mixed immiscible liquids collection conduit network.

53. (New) The system of claim 39, further including a vacuum sensing means, said vacuum sensing means being coupled to said vacuum tank and to said vacuum generating means, and being used to maintain a constant vacuum intensity inside said vacuum tank as created by said vacuum generating means.

54. (New) The system of claim 39, further including a vacuum tank positive pressure prevention means, said vacuum tank positive pressure prevention means being selected from the group consisting of pressure relief valves and check valves, and combinations thereof, and being coupled to said vacuumtank and, if said light phase terminal facility and/or if said heavy phase terminal facility exists, and if said light phase terminal facility and/or said heavy phase terminal facility is a storage container means, said storage container means being selected from the group consisting of tanks, drums, barrels, vaults, containers, and combinations thereof, and if a vent conduit in said storage container means exists, being coupled to said vent conduit in said storage container means.

55. (New) The system of claim 39, wherein the exhaust air exiting from said vacuum generating means is coupled to said light phase terminal facility or to said heavy phase terminal facility, if said light phase terminal facility and/or if said heavy

phase terminal facility exists, and if said light phase terminal facility and/or said light phase terminal facility is a storage container means, said storage container means being selected from the group consisting of tanks, drums, barrels, vaults, containers, and combinations thereof, and if a vent conduit in said storage container means exists, by said vent conduit in said storage container means.

56. (New) The system of claim 39, further including a vacuum tank maximum vacuum intensity regulating means, said vacuum tank maximum vacuum intensity regulating means being selected from the group consisting of vacuum relief valves and combinations thereof, and being coupled to said top of said vacuum tank.

57. (New) The system of claim 39, further including a heavy phase sump high liquid level activated vacuum tank vacuum purging means, said heavy phase sump high liquid level activated vacuum tank vacuum purging means being selected from the group consisting of solenoid valves, float actuated valves, and combinations thereof, said heavy phase sump high liquid level activated vacuum tank vacuum purging means having an inlet opening and outlet opening, said inlet opening of said heavy phase sump high liquid level activated vacuum tank vacuum purging means being coupled to the atmosphere, said outlet opening of said heavy phase sump high liquid level activated vacuum tank vacuum purging means being coupled to said air gap inside said vacuum tank, said heavy phase sump high liquid level activated vacuum tank vacuum purging means isolating said air gap inside said vacuum tank from the atmosphere external to said vacuum tank at any time that said heavy phase sump liquid surface level is below a heavy phase sump high liquid surface level sensing means, said heavy

phase sump high liquid surface level sensing means being located inside said heavy phase sump above said heavy phase sump upper liquid surface level sensing means and below said top of said space of said heavy phase sump, said heavy phase sump high liquid surface level sensing means causing said heavy phase sump high liquid level activated vacuum tank vacuum purging means to open at any time that said heavy phase sump liquid surface level is at, or above, said heavy phase sump high liquid surface level sensing means. --

Authorization for this examiner's amendment was given in a telephone interview with Robert Petersen on November 16, 2006

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

November 16, 2006

Joseph Drodge

JOSEPH DRODGE
PRIMARY EXAMINER